

REMARKS/ARGUMENTS

Claims 1-6, 8-11 and 13-15 are present in this application. By this Amendment, claims 1, 10, 11 and 14 have been amended, claims 7 and 12 have been canceled, and claim 15 has been added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

With regard to the drawings, formal drawings are being filed concurrently herewith. Withdrawal of the objection is requested.

Claims 7 and 11 were objected to due to informalities. Claim 7 has been canceled by this Amendment, and claim 11 has been amended to clarify the intended subject matter. Withdrawal of the objection is requested.

Claims 1-6, 8-10 and 12-14 were rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,509,664 to Shah et al. This rejection is respectfully traversed.

The Office Action contends that Shah discloses “a plurality of field winding modules 524 respectively disposed over each pole of the multi-pole rotor core,” with reference to Figure 8. To the contrary, however, Shah discloses excitation windings formed within respective slots. Such slots and windings may be eliminated by the present invention by forming the windings as pre-assembled modules. In an effort to clarify this feature of the invention, claims 1, 10 and 14 have been amended to clarify that the field winding modules are formed as “individual units” disposed over each pole of the multi-pole rotor core. Since this subject matter is lacking in the Shah patent, Applicants submit that the rejection is misplaced.

In addition, claim 1 has been amended to clarify the structure of the magnetic shield, including a single piece construction and a plurality of longitudinally aligned ventilation slots. Support for this subject matter can be found, for example, in Figure 5. Shah additionally lacks at

least such longitudinally aligned ventilation slots. Rather, Shah describes that “holes 521 can extend through the shield [515] and the insulation layer for cooling purposes.”

Claim 10 recites that the magnetic shield comprises multiple overlapping segments aligned longitudinally relative to the rotor shaft. Claim 14 defines related subject matter. Support for this subject matter can be found, for example, in Figs. 6-7. This construction of the magnetic shield is also lacking in the Shah patent, and for these reasons also, Applicants respectfully submit that the rejection is misplaced.

With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 1, 4, 5, 9 and 14 were rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,169,353 to Driscoll. This rejection is respectfully traversed.

Like the Shah patent, Driscoll defines “at least one groove disposed within said outer surface,” which “grooves” are winding slots for securing electrical windings. As noted above, the subject matter of the present invention can be distinguished by virtue of the use of pre-assembled winding modules disposed over each pole of the multi-pole rotor core. Claims 1 and 14 recite that the field winding modules include individual units respectively disposed over each pole of the multi-pole rotor core. Since at least this subject matter is lacking in Driscoll, Applicants submit that the rejection is misplaced.

Additionally, the Office Action contends that Driscoll discloses “a magnetic shield comprising aluminum shell 36” Claim 1, however, recites that the magnetic shield comprises a single piece construction and includes a plurality of longitudinally aligned

ventilation slots. At least such slots are lacking in the Driscoll apparatus. Rather, the Driscoll shell 36 is without slots or other openings.

Claim 14 defines a step of providing a magnetic shield with multiple overlapping segments aligned longitudinally relative to the rotor shaft. This construction is also lacking in the Driscoll patent, and Applicants respectfully submit that for these reasons also, the rejection is misplaced.

With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-4 and 6-14 are rejected under 35 U.S.C. §102(b) over European Patent Publication 1,124,304 (referenced in the Office Action as "Mullahalli et al."). This rejection is respectfully traversed.

The EP '304 publication is commonly-owned by the assignee of the present application, also including a number of common inventors. With the present invention, the inventors endeavored to improve the EP '304 construction by eliminating the need to drill holes in the shield without compromising shield functionality. One manner of effecting such an improvement is illustrated in Figure 5 of the present application. In this context, claim 1 has been amended to recite that the magnetic shield comprises a single piece construction and includes a plurality of longitudinally aligned ventilation slots. This feature of the invention is lacking in the EP '304 construction.

An alternative improvement encompasses the use of overlapping segments for the magnetic shield as illustrated in Figures 6 and 7. In this context, claim 10 has been amended to recite that the magnetic shield comprises multiple overlapping segments aligned longitudinally

relative to the rotor shaft. Claim 14 has been amended to include related subject matter. This construction is also lacking in the EP '304 publication.

Since at least these features of the invention are lacking in the EP '304 publication, Applicants respectfully submit that the rejection is misplaced. With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 7 was rejected under 35 U.S.C. §103(a) over Driscoll in view of U.S. Patent No. 3,679,920 to MacNab et al. Without conceding this rejection, claim 7 has been canceled herein, and Applicants submit that the rejection is moot.

Claims 1, 3-7, 9-11, 13 and 14 were rejected under 35 U.S.C. §103(a) over Japanese Patent Publication 63-310367 to Numata in view of MacNab. This rejection is respectfully traversed.

Numata discloses a construction including electrical windings embedded in rotor slots. As discussed above, this construction is distinguishable from the pre-assembled winding modules defined by the claimed invention. Moreover, the enclosure described by Numata is a pressurized dewar designed to contain liquid helium. Such containers typically include a double wall with a vacuum between the walls and silvered surfaces facing the vacuum. An important purpose of the dewar is to provide thermal shielding of a superconductive winding that must be maintained at very low, cryogenic temperatures. In order to maintain a vacuum, such containers must be well-sealed and without ventilation holes. As noted, claim 1 defines the magnetic shield including a single piece construction with a plurality of longitudinally aligned ventilation slots. Such slots would render the Numata apparatus inoperative for its intended purpose.

Claim 10 recites that the magnetic shield comprises multiple overlapping segments aligned longitudinally relative to the rotor shaft. Such segments are not only lacking in Numata and MacNab, but would be contrary to effective operation of the Numata and MacNab construction. That is, any overlapped segments would create a significant vacuum leak, thereby deteriorating the performance of the container's construction. Claim 14 defines related subject matter.

For at least these reasons, Applicants submit that the rejection is misplaced. With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 5 was rejected under 35 U.S.C. §103(a) over "Mullahalli" in view of MacNab. The MacNab patent, however, does not correct the deficiencies noted with regard to independent claim 1. That is, neither "Mullahalli" nor MacNab provides any teaching or suggestion to modify the "Mullahalli" construction to include a single piece magnetic shield with a plurality of longitudinally aligned ventilation slots. As a consequence, Applicants submit that claim 5 is allowable at least by virtue of its dependency on an allowable independent claim. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 15 has been added herein dependent on claim 10, and defines the magnetic shield including a plurality of longitudinally aligned ventilation slots.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the claims are patentable over the art of record and that the application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the

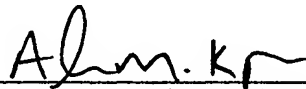
KAMINSKI et al.
Appl. No. 10/617,831
August 19, 2004

application in condition for allowance, the Examiner is invited to contact Applicants'
undersigned attorney at the telephone number listed below.

Prompt passage to issuance is earnestly solicited.

Respectfully submitted,

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